Available online at www.sciencedirect.com
SCIENCE DIRECT®
ELSEVIER
Geoderma 116 (2003) 403–404
GEODERMA
www.elsevier.com/locate/geoderma

Contents Volume 116, 2003

Special Issue

Quantifying Agricultural Management Effects on Soil Properties and Processes

Edited by

Lajpat R. Ahuja (Guest Editor)

Preface 1

Research papers

Advances and challenges in predicting agricultural management effects on soil hydraulic properties
T.R. Green, L.R. Ahuja and J.G. Benjamin 3

Tillage and traffic effects on soil hydraulic properties and evaporation
J.F. Sillon, G. Richard and I. Cousin 29

Soil hydraulic properties of cropland compared with reestablished and native grassland
R.C. Schwartz, S.R. Evett and P.W. Unger 47

Effect of soil organic carbon on soil water retention
W.J. Rawls, Y.A. Pachepsky, J.C. Ritchie, T.M. Sobecki and H. Bloodworth 61

Stress–strain effects in structured unsaturated soils on coupled mechanical and hydraulic processes
R. Horn 77

Modeling change in soil compaction due to agricultural traffic as function of soil water content
P. Défossez, G. Richard, H. Boizard and M.F. O'Sullivan 89

Quantification of compaction effects on soil physical properties and crop growth
J. Lipiec and R. Hatano 107

Quantifying effects of soil conditions on plant growth and crop production
J.G. Benjamin, D.C. Nielsen and M.F. Vigil 137

Cropping intensification in dryland systems improves soil physical properties: regression relations
T.M. Shaver, G.A. Peterson and L.A. Sherrod 149

Effect of natural and agricultural factors on long-term soil organic matter dynamics in arable soddy-podzolic soils—modeling and observation
L. Shevtsova, V. Romanenkov, O. Sirotenko, P. Smith, J.U. Smith, P. Leech, S. Kanzyvaa and V. Rodionova 165

Tillage effect on macroporosity and herbicide transport in percolate
R.W. Malone, S. Logsdon, M.J. Shipitalo, J. Weatherington-Rice, L. Ahuja and L. Ma 191

Effects of crop residue cover and architecture on heat and water transfer at the soil surface
G.N. Flerchinger, T.J. Sauer and R.A. Aiken 217

Management effects on nitrogen recovery in a sugarcane crop grown in Brazil
M.V. Basanta, D. Dourado-Neto, K. Reichardt, O.O.S. Bacchi, J.C.M. Oliveira, P.C.O. Trivelin, L.C. Timm, T.T. Tominaga, V. Correchel, F.A.M. Cássaro, L.F. Pires and J.R. de Macedo 235
Soil formation and organic matter accretion in a young andesitic chronosequence at Mt. Shasta, California
J. Lilienfein, R.G. Qualls, S.M. Uselman, S.D. Bridgham 249
Organic matter in size fractions of soils of the semiarid Argentina. Effects of climate, soil texture and management
G.G. Hevia, D.E. Buschiazzo, E.N. Hepper, A.M. Urioste, E.L. Antón 265
Pedogenic processes and domain boundaries in a Vertisol climosequence: evidence from titanium and zirconium distribution and morphology
C.A. Stiles, C.I. Mora, S.G. Driese 279
Weathering and atmospheric deposition signatures of base cations in upland soils of NE Scotland: their application to critical load assessment
M. Stutter, S. Langan, M. Cresser 301
Humic acids in the first generation of EUROSOILS
N. Senesi, V. D'Orazio, G. Ricca 325
Chemical changes during composting of a paper mill sludge–hardwood sawdust mixture
T. Marche, M. Schnitzer, H. Dinel, T. Paré, P. Champagne, H.-R. Schulten, G. Facey 345
Weathering of sandstone clasts in a forest soil in Tuscany (Italy)
G. Certini, S. Hillier, E. McMurray, A.C. Edwards 357
The effect of 10% HF treatment on the resolution of CPMAS ^{13}C NMR spectra and on the quality of organic matter in Ferralsols
C.N. Gonçalves, R.S.D. Dalmolin, D.P. Dick, H. Knicker, E. Klamt, I. Kögel-Knabner 373

Erratum 393

Book reviews 395

Contents Volume 116, 2003 403